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(54) Title: MODIFIED WEIGHTED BIT PLANES FOR DISPLAYING GREY LEVELS ON OPTICAL ARRAYS

(57) Abstract

In a method of multi–level spatial light modulation, using a weighted bit plane technique where an n–digit binary number represents the intended grey level of each pixel location in an array of binary pixels, representative binary numbers are altered to closely adjacent values such as to reduce the inequality of 1s and 0s therein. The method may be applied to a single frame so modifying the gray scale somewhat, or a multi–frame method may be used in which at least some binary numbers are altered to different values in different frames for reducing the inequality of 1s and 0s over the set of frames, while maintaining or approximating the gray scale value as a time average. The methods are particularly useful for maintaining or approximating pixel–wise dc balance in liquid crystal spatial array modulators.

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